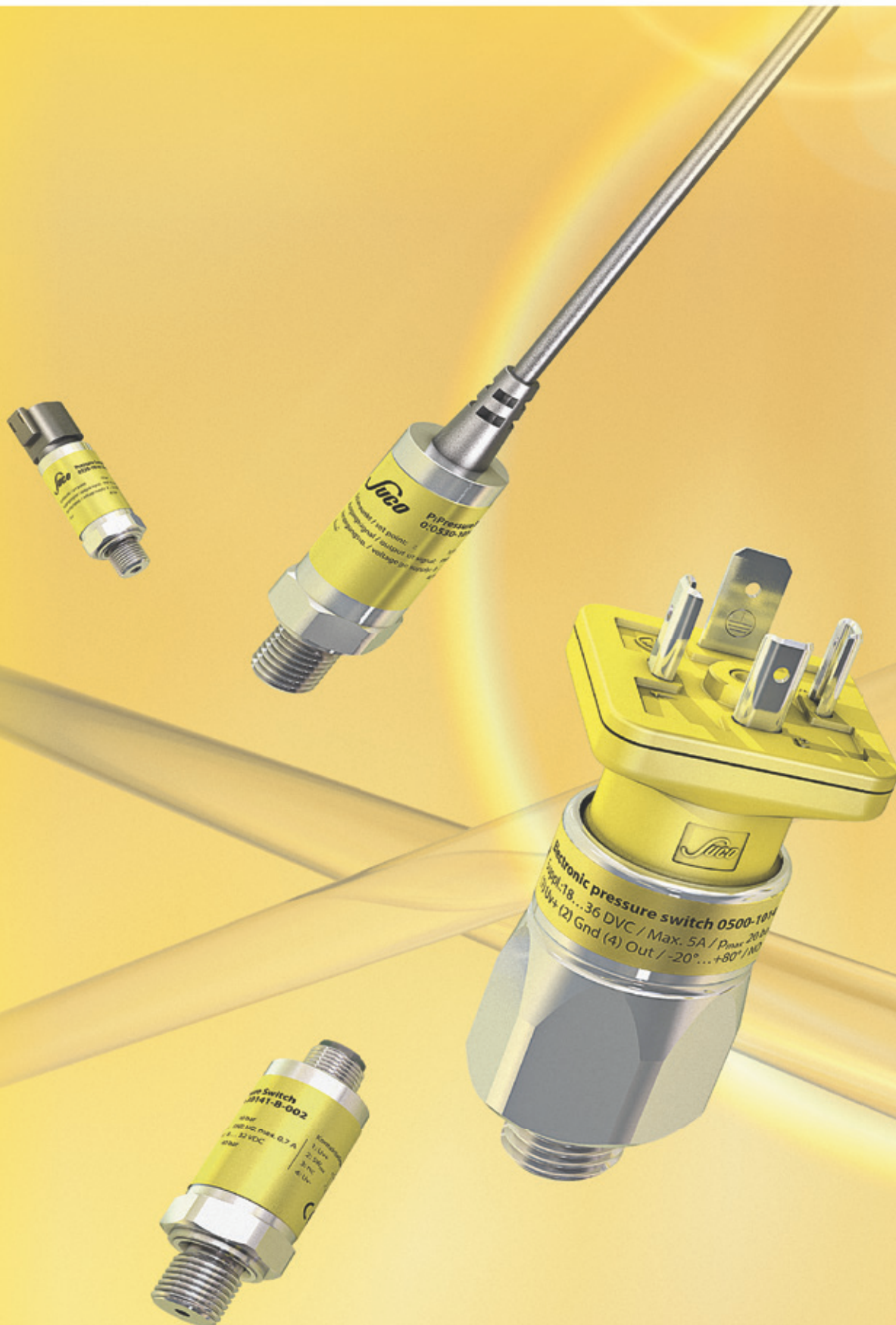


# E. Electronic Pressure Switches



## Electronic pressure switches, Performance series

hex 24, adjustable by user



- Very competitively priced electronic pressure switches
- High overpressure protection (up to 2 x)
- Small, compact electronic switches
- Broad diversity of electronic and mechanical connection options
- Ceramic sensor in thick film technology
- Easy adjustment of switching point from the outside using set screw
- Hysteresis adjustable within broad range (2 % – 98 %, set at factory)
- Monitoring of a pressure range due to window function
- High level of adaptability to your requirements (custom solutions)



# Electronic pressure switches, Performance series

## Technical Details

Type:	<b>0510 NO</b> <b>0511 NC</b>							
Transistor output:	PNP output (High-Side N-channel)							
Supply voltage:	9.6 – 32 VDC with reverse voltage protection							
Output current:	0.5 A with short-circuit and overvoltage protection							
Idle power consumption:	< 30 mA							
Adjustment range $p_{nom}$ :	0 – 2 bar	0 – 4 bar	0 – 10 bar	0 – 16 bar	0 – 40 bar	0 – 100 bar	0 – 250 bar	
Max. overpressure <sup>1)</sup> :	4 bar	10 bar	20 bar	40 bar	100 bar	150 bar	375 bar	
Burst pressure <sup>1)</sup> :	8 bar	20 bar	35 bar	60 bar	140 bar	300 bar	500 bar	
Mechanical life expectancy:	5,000,000 pulsations at rise rates to 1 bar/ms at $p_{nom}$							
Pressure rise:	≤ 1 bar/ms							
Accuracy:	±0.5 % of adjustment range $p_{nom}$ (full scale (FS)) at room temperature							
Switching point adjustment range:	3 ... 100 % of adjustment range $p_{nom}$ (FS), set at factory							
Hysteresis <sup>2)</sup> :	2 ... 98 % FS, programmable at factory (max. tolerance ±1.0% of adjustment range $p_{nom}$ )							
Default-Hysteresis without order specification:	2 bar	4 bar	10 bar	16 bar	40 bar	100 bar	250 bar	
	0,1 bar	0,2 bar	0,5 bar	0,8 bar	2 bar	5 bar	10 bar	
Operating mode:	With hysteresis or window function (see page 101), programmable at factory							
Resolution:	0.2 % of adjustment range $p_{nom}$ (FS)							
Long term stability:	±0.1 % of adjustment range $p_{nom}$ (FS) per year							
Repeatability <sup>3)</sup> :	±0.1 % of adjustment range $p_{nom}$ (FS)							
Switching time:	< 4 ms							
Switch-on / -off delay:	Adjustable between 0 and 2 s (please specify when ordering, otherwise default 0 s is set)							
Temperature error <sup>3)</sup> :	±0.04 % of adjustment range $p_{nom}$ (FS) / °C							
Compensated temperature range:	0 °C ... +70 °C (32 °F ... 158 °F), total error ≤ 2 %							
Temperature range ambient:	-30 °C ... +100 °C (-22 °F ... 212 °F)							
Temperature range media:	with TPE seal:	-30 °C ... +110 °C (-22 °F ... +230 °F)						
	with NBR seal:	-30 °C ... +100 °C (-22 °F ... +212 °F)						
	with EPDM seal:	-30 °C ... +125 °C (-22 °F ... +257 °F)						
	with FKM seal:	-20 °C ... +125 °C (-4 °F ... +257 °F)						
Wetted parts material	Housing:	Stainless steel (1.4305 / AISI 303)						
	Messuring cell:	Ceramic						
	Seal material:	TPE, NBR, EPDM or FKM						
Insulation resistance:	> 100 MΩ (500 VDC, $R_i > 42 \Omega$ )							
Vibration resistance:	20 g; at 4 ... 2000 Hz sine wave, DIN EN 60068-2-6							
Shock resistance:	500 m/s <sup>2</sup> , 11 ms half sine wave; DIN EN 60068-2-27							
Protection class:	IP65: DIN EN 175301-803-A IP67: M12x1, AMP-Superseal®, cable connector IP67 and IP6K9K: Bayonet ISO 15170-A1-4.1, Deutsch DT04-3P							
Electromagnetic compatibility:	EMV 2014/30/EU, EN 61000-6-2:2005, EN 61000-6-3:2007							
Cable output thread size:	For DIN EN 175301: Pg9 (outside diameter of cable 6 to 9 mm)							
Weight:	approx. 80 g (DIN EN 175301 approx. 110 g)							

<sup>1)</sup> Static pressure, dynamic pressure 30 to 50 % lower. Values refer to the hydraulic or pneumatic part of the electronic pressure switch.

<sup>2)</sup> 3 ... 98 % with programming device PPD05 (see page 133).

<sup>3)</sup> Within the compensated temperature range.

# E.2

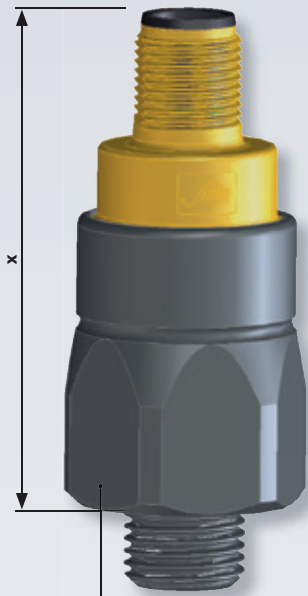
hex 24

Performance

adjustable by user

# 0510 / 0511

Electrical connectors and threads



hex 24

	NO / NC	
○ 1	(Uv+)	
○ 2	(Gnd)	
○ 3	(U <sub>out</sub> )	

**DIN EN 17530-803-A**

Pin	Assignment
1	Uv+
2	Gnd
3	U <sub>out</sub>
PE	

IP65

x ~ 60 mm without coupler socket  
x ~ 77 mm with coupler socket

**Order number: 013**

**M12-DIN EN 61076-2-101 A**

Pin	Assignment
1	Uv+
2	nc
3	Gnd
4	U <sub>out</sub>

IP67

x ~ 54 mm

**Order number: 002**

**ISO 15170-A1-4.1**

Pin	Assignment
1	Uv+
2	Gnd
3	U <sub>out</sub>
4	nc

IP67, IP6K9K

x ~ 56 mm

**Order number: 004**

**AMP Superseal 1.5®**

Pin	Assignment
1	U <sub>out</sub>
2	Gnd
3	Uv+

IP67

x ~ 61 mm

**Order number: 007**

**Deutsch DT04 - 3P**

Pin	Assignment
A	Uv+
B	Gnd
C	U <sub>out</sub>

IP67, IP6K9K

x ~ 61 mm

**Order number: 010**

**Cable connection**

Pin	Assignment
red	Uv+
white	U <sub>out</sub>
black	Gnd

IP67

x ~ 47 mm  
(+ 25 mm bend relief)  
Cable length ~ 2 m

**Order number: 011**

G 1/4 DIN  
EN ISO 1179-2  
(DIN 3852-11)  
form E

**Thread code: 41**

NPT 1/4

**Thread code: 09**

# 0510 / 0511

## Ordner matrix for electronic pressure switches

E.2

hex 24

Performance

adjustable by user



	<b>Type</b>	<b>Adjustment range</b>	<b>Pressure connection</b>	<b>Seal material</b>	<b>Electrical connection</b>
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### Type

Normally open (NO), PNP, switching points programmed at factory <sup>1)</sup>	<b>0510</b>
Normally closed (NC), PNP, switching points programmed at factory <sup>1)</sup>	<b>0511</b>

Max. overpressure <sup>2)</sup>	Burst pressure	Adjustment range <sup>1)</sup>	
4 bar	8 bar	0 – 2 bar (approx. 29 PSI)	<b>200</b>
10 bar	20 bar	0 – 4 bar (approx. 58 PSI)	<b>400</b>
20 bar	35 bar	0 – 10 bar (approx. 145 PSI)	<b>101</b>
40 bar	60 bar	0 – 16 bar (approx. 230 PSI)	<b>161</b>
100 bar	140 bar	0 – 40 bar (approx. 580 PSI)	<b>401</b>
150 bar	300 bar	0 – 100 bar (approx. 1.450 PSI)	<b>102</b>
375 bar	500 bar	0 – 250 bar (approx. 3.625 PSI)	<b>252</b>

### Pressure connection

G 1/4 – DIN EN ISO 1179-2 (DIN 3852-11), form E	<b>41</b>
NPT 1/4	<b>09</b>

### Seal material – Application areas

<b>NBR</b>	Hydraulic/machine oil, heating oil, air, nitrogen, etc.	<b>1</b>
<b>EPDM</b>	Brake fluid, water, acetylene, hydrogen etc.	<b>2</b>
<b>FKM</b>	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline etc.	<b>3</b>
<b>TPE</b>	Hydraulic/machine oil, air, water, acetylene, nitrogen, etc.	<b>7</b>

### Electrical connection

DIN EN 175301-803-A (DIN 43650-A) coupler socket included in delivery	<b>013</b>
M 12x1 - DIN EN 61076-2-101-A	<b>002</b>
Bayonet ISO 15170-A1-4.1 (DIN 72585-A1-4.1)	<b>004</b>
AMP Superseal 1.5®	<b>007</b>
Deutsch DT04-3P	<b>010</b>
Cable connection (length of cable 2 m standard)	<b>011</b>

<b>Order number:</b>	<b>05XX</b>	<b>XXX</b>	<b>XX</b>	<b>X</b>	<b>XXX</b>
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<sup>1)</sup> Please state switching point and hysteresis when ordering.

<sup>2)</sup> Static pressure, dynamic pressure 30 to 50 % lower. Values refer to the hydraulic or pneumatic part of the electronic pressure switch.

